Hosted VoIP Phone System
IS YOUR NETWORK VOIP READY?

Telesystem®
Blue Platform

Thank you for your interest in Telesystem's Hosted VoIP phone system. Our Hosted VoIP solution offers significant price savings, added features and functionality, and network efficiency when compared to on-premise PBX systems. **While Hosted VoIP offers a number of benefits, there are a few items that should be considered prior to installation.**

This checklist highlights the network components that must be in place before your VoIP service will work as intended. In general, a VoIP-ready network should have sufficient bandwidth, be designed for redundancy, and block the passage of unwanted intrusions while efficiently routing and delivering trusted traffic in real time. Without these, **you will experience VoIP quality issues**. Further examination of security elements and power continuity planning will protect your business from security compromise and power outage related downtime.

Firewall/Router

A firewall is a basic part of network security. Based on network-specific configurations, a firewall allows data to enter the network if it is defined as acceptable for your specific network services. In the same way, it blocks bad traffic before it can reach network devices. **Your firewall should:**

- ☐ Provide dynamic address port translations and port forwarding
- ☐ Pass interoperability testing, including IP phones, Telesystem Softphone, the Session Border Controller, and any Telesystem software
- ☐ Support NAT secure policy and Quality of Service (QoS)

Network Switch

In simplest terms, a network switch takes incoming data traffic and sends it to the intended device recipient on the network. Because it routes the traffic only to specific endpoints, instead of all networked devices, network switches provide improved security and efficiency compared to other network devices like hubs. **Your network switch should:**

- ☐ Managed as opposed to unmanaged. This allows for VoIP necessary customizations
- ☐ Supports Quality of Service (QoS) and VLAN tagging, giving the voice traffic priority on the network, ensuring call quality standards are met
- ☐ Include Power over Ethernet capacity, or power supply to support the endpoints

Structured Cabling

Category 5e (CAT5) and Category 6 (CAT6) cable is commonly used in Ethernet networking and uses a pair of twisted copper wires as opposed to coaxial or fiber optic cable. Use of CAT5 or better cabling provides superior signal handling to prevent signal noise or loss while eliminating cross talk and signal bleeding.

- ☐ A connection like this will be necessary for each phone
- ☐ BICSI Standard (Industry standard for structured cabling)

LAN Assessment

Once the necessary upgrades have been completed, your network administrator or vendor should conduct a VoIP traffic study to understand your network's ability to support high quality VoIP voice traffic. This assessment should examine basic measurements like *latency, jitter, lost or dropped packets, R-factor, and Mean Opinion Scoring (MOS).* If the results return outside the scope of industry standards, it will negatively impact call voice quality. In such a scenario, Telesystem may advise supplementary LAN remediation until results return within acceptable ranges.

	☐ Latency	☐ Jitter	☐ MOS	☐ R-Factor
Good	Less than 100ms	Less than 20	Greater than 4.3	Greater than 85
Acceptable	100ms - 150ms	20 - 25	3.7 - 4.3	70 - 85
Poor	Greater than 150ms	Greater than 25	Less than 3.7	Less than 70

Other Important Items

- ☐ Sufficient IP transport capable of sustaining your VoIP traffic is necessary
- ☐ Bypassing the firewall may require a Multi-Service Business Gateway or Session Border Controller
- ☐ Remove all hubs and unmanaged switches
- ☐ All electronics should be upgraded to latest firmware/software versions
- ☐ There should be adequate CPU/memory/bandwidth for each network associated device
- ☐ Backup power for all network attached devices

Is Your Network VoIP Ready?

For clarification on any of these items, contact us at 1.888.808.6111.

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